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Concurrent Everolimus with Hepatic Transarterial Bland Embolotherapy [Evero-Embo] in Patients with Bulky and/or Progressive Metastatic Well Differentiated Neuroendocrine Tumor

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BACKGROUND: Hepatically directed intra-arterial therapies in patients with well differentiated neuroendocrine tumors (NETs) offer improved outcomes with predictable and manageable toxicities. Systemic targeted therapies, such as everolimus and sunitinib, are frequently held 2-4 weeks prior to and after procedures. Embolotherapy results in anoxic injury, while everolimus effects cell growth, proliferation, and survival. Safety and response rates of concurrent use of everolimus with bland hepatic transarterial embolization (TAE) have been previously reported (ASCO 2019). Historically, bland TAE and chemoembolization have median hepatic progression-free survivals (mPFS) of ~9 and 18 months, respectively. We hypothesize that by continuing everolimus during and after bland TAE, hepatic mPFS will be greater than 18 months.

METHODS: A review of clinical and radiographic data was conducted for all sequential patients who underwent evero-embo between September 2016 and September 2020 at the University of Kentucky Markey Cancer Center. An independent radiologist performed response evaluation criteria in solid tumors (RECIST) measurements. To be included in this study, patients were required to have had systemic everolimus for $\geq$ one month prior to embolization and to be on everolimus immediately post procedure. Patients with at least 20 months post procedure follow-up were included for mPFS analysis.

RESULTS: A total of 96 TAEs with concurrent systemic everolimus were performed in 51 NET patients. Thirty of the 51 patients had 24 or more months

of follow-up post-procedure. The median hepatic free progression (hPFS) is 30+ months.

CONCLUSION: Evero-embo results in a median hPFS exceeding that of bland or chemoembolization. A prospective clinical trial is planned to confirm the efficacy and safety of combining everolimus with hepatic bland embolotherapy.

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